AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1-2. (cancelled)

3. (previously presented) A method for stabilizing a thioesterase comprising:
genetically engineering the thioesterase to include one or more terminal histidine residues;
copolymerizing an amphiphile containing a salt selected from the group consisting of metal salts of iminodiacetic acid, nitrilotriacetic acid, and mixtures thereof with other polymerizable amphiphiles to form vesicles; and
binding the genetically engineered thioesterase to the salts on the outer surface of the vesicles.

4. (original) The method according to claim 3 wherein the metal salts are selected from the group consisting of copper, nickel, cobalt, and zinc salts.

5-6. (cancelled)

7. (original) The method according to claim 3 wherein the salt is a metal salt of iminodiacetic acid.

8. (original) The method according to claim 3 wherein the salt is a metal salt of nitrilotriacetic acid.

9. (currently amended) A method ~~for stabilizing a thioesterase~~ of reducing the presence of a contaminant comprising:

genetically engineering ~~the~~ a thioesterase capable of reacting with the contaminant to include one or more terminal histidine residues; ~~and~~

attaching the genetically engineered thioesterase to salt groups selected from the group consisting of metal salts of iminodiacetic acid, metal salts of nitrilotriacetic acid, and mixtures thereof on the surface of a particulate inorganic carrier; and

contacting the attached thioesterase with a sample suspected of containing the contaminant.

10. (original) The method according to claim 9 wherein the metal salts are selected from the group consisting of copper, nickel, cobalt, and zinc salts.

11. (previously presented) The method according to claim 9 wherein the carrier is a metal oxide ceramic particles that can be formed in the Stober process starting with a metal alkoxide precursor.

12. (previously presented) The method according to claim 11 wherein the metal oxide particles are selected from the group consisting of silica, alumina, baria, titania, and zirconia.

13. (original) The method according to claim 9 wherein the salt groups are metal salts of iminodiacetic acid.

14. (original) The method according to claim 9 wherein the salt groups are metal salts of nitrilotriacetic acid.

15. (original) The method of claim 3 wherein the bound enzyme is capable of detoxifying a nerve agent.

16-20. (cancelled)

21. (previously presented) The method of claim 9, wherein the enzyme includes a terminal polyhistidine chain.

22. (cancelled)

23. (previously presented) The method of claim 9, wherein the bound enzyme is capable of detoxifying a nerve agent.

24. (previously presented) The method of claim 3, wherein the enzyme includes a terminal polyhistidine chain.

25. (previously presented) The method of claim 3, wherein the bound genetically engineering thioesterase is catalytically active.

26. (previously presented) The method of claim 9, wherein the bound genetically engineering thioesterase is catalytically active.

27. (new) The method of claim 3, further comprising the step of contacting the bound thioesterase with a sample suspected of containing a contaminant.

28. (new) A method of reducing the presence of a contaminant comprising:
genetically engineering an enzyme capable of reacting with the contaminant to include one or more terminal histidine residues;
copolymerizing an amphiphile containing a salt selected from the group consisting of metal salts of iminodiacetic acid, nitrilotriacetic acid, and mixtures thereof with other polymerizable amphiphiles to form vesicles; and
binding the genetically engineered enzyme to the salts on the outer surface of the vesicles; and
contacting the bound enzyme with a sample suspected of containing the contaminant.

29. (new) A method of reducing the presence of a contaminant comprising:

genetically engineering an enzyme capable of reacting with the contaminant to include one or more terminal histidine residues;

attaching the genetically engineered enzyme to salt groups selected from the group consisting of metal salts of iminodiacetic acid, metal salts of nitrilotriacetic acid, and mixtures thereof on the surface of a particulate inorganic carrier; and

contacting the attached enzyme with a sample suspected of containing the contaminant.